



# NOAA Coral Reef Conservation Program Coral Fellowship



GUAM



PUERTO  
RICO



USVI



CNMI



FLORIDA



HAWAII



AMERICAN  
SAMOA

SUMMER EDITION  
JULY 2013





JENN-USVI/2013  
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After an extensive dry season, the rainy season has finally arrived in the Virgin Islands! The rains serve as a valuable reminder of our need for comprehensive watershed management. In keeping with the foremost goal within the USVI Management Priorities of reducing terrestrial sediment and pollutant loads in our seas, I've been slowly growing a Watershed Stewards group on St. Croix. In addition to establishing an online listserv, I've uploaded the recently published St. Croix East End Watersheds Management Plan and supporting documents to the East End Marine Park's website (<http://stxeemp.dpnr.gov.vi/download-forms>) to insure local user accessibility.

Meetings with property owners are planned to share information and build opportunities for collaboration on watershed projects like rain gardens, waterbars, and rehabilitation of existing culverts and swales. I continue to actively search for funding opportunities for project managers and seek to partner government agencies with local stakeholders. In addition to building watershed stewardship in the territory, I continue to develop events under the Sustainable

Tourism Plan and the Friends of the St. Croix East End Marine Park group to build awareness of the St. Croix East End Marine Park and its goals.

Upcoming monthly events include a beach cleanup sponsored by a local restaurant, bayside tours with Marine Park rangers, and snorkel outings for the public within the Marine Park. The annual Lionfish Derby at Reef Jam coordinated by both DPNR and the Friends occurs the last weekend of May. Last year over 100 invasive lionfish were removed from reefs surrounding the territory by nine partic-

ipants; we hope to double those numbers this year! As well as monthly events and development of the Lionfish Derby, I've begun assembling the team that will prepare the 3<sup>rd</sup> Annual Stand-Up Paddleboard Race in late August! This event is the paramount fundraiser for the Friends and their work supporting the St. Croix East End Marine Park in its goal of managing the natural and cultural resources within its boundaries. We expect more athletes and spectators than years previous.





ANNE-HI/2013

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## Updates: HAWAII

One aspect of the Fellowship that I have enjoyed the most thus far is the opportunity to work on projects that will directly benefit local communities who are actively working to conserve ocean resources. The Hawai'i Department of Land and Natural Resources (DLNR) established the Makai (the Hawaiian word meaning "seaward") Watch Program in 2005 to help these communities to organize their conservation activities, which are divided into three categories: incident observation and encouraging compliance, building community awareness with outreach, and biological and human use monitoring. Through the NOAA fellowship, I will be creating a guidebook for the monitoring aspect of the Makai Watch Program that will aid the eight Makai Watch communities in defining a research question, designing their sampling field protocol, managing and analyzing data, and finally communicating their results to managers, scientists, and fellow community members.

I am especially excited about this project because of my previous experience working with Makai Watch groups. During my Master's research, I developed a tide pool monitoring protocol for a group called Malama Pūpūkea-Waimea (MPW), located on the North Shore of O'ahu. This past weekend, I had the pleasure of presenting the results of my research to the community at Pūpūkea and announcing my plans for the Makai Watch guidebook project. Earlier that day, I took a swim with a couple of my colleagues to check out the Pūpūkea Marine Life Conservation District (MLCD), which is a no-take conservation area that protects about a quarter square mile of rocky coral reef habitat. It was a great opportunity to observe the benefits of marine protected areas in person as a number of sea turtles, large fish, and even a whitetip reef shark joined us on our snorkel. MPW has a monitoring program already established to survey the numbers and types of fish in this area and hopefully with help from the Makai Watch monitoring guidebook, they and other groups will be able to effectively share this meaningful information and track the changes within these special areas over time.

The first step I took to write the Makai Watch guidebook was to meet with several experts who have experience developing monitoring programs and working closely with community groups. Later this summer, I will be traveling to visit Makai Watch groups on Kauai, Maui and Big Island meet with several other site leaders and hear about their experiences with monitoring. With monitoring interests ranging from fish and coral surveys, to water quality monitoring and tracking human uses, it will be crucial to see the protected areas in person and establish exactly how the monitoring guidebook could help these communities. My presentation this weekend at Pūpūkea made me feel lucky to be working in a place like Hawai'i where communities are passionate about taking part in the management of their ocean resources. I am enthusiastic about developing the Makai Watch monitoring guidebook during my fellowship and hope that it encourages more volunteers to get involved in citizen science, marine resource management, and the environmental issues within their communities.







KAREN-FL/2013

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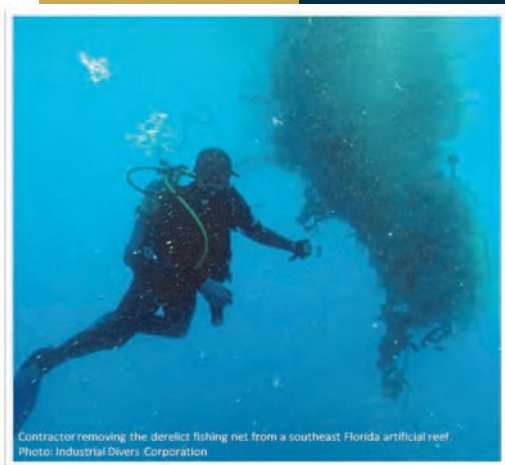
## Updates: **FLORIDA**

Over the last couple of months, I've been busy overseeing the Marine Debris Reporting and Removal Program and further developing the Southeast Florida Action Network (SEAFAN), a community-based marine incident reporting and response program.

As coordinator for the Marine Debris Program, I partnered with Underwater Unlimited dive shop and students from Florida International University and the University of Miami to conduct a beach dive cleanup in Miami. A total of 43 divers and 14 beach cleaners participated in the event and helped to collect, sort, and document marine debris. Although the divers had to battle some tricky waves during their beach entry and exit, in total the participants were able to remove over 200 pounds of trash from the shoreline and nearshore waters.

In addition to encouraging local divers to get involved in marine debris removal efforts, another goal of the Marine Debris Program is to facilitate the removal of large, high priority debris from our waters. As the Florida Coral Fellow, I had the opportunity to do just that – help coordinate the removal of a derelict fishing net from an artificial reef in southeast Florida. The net was estimated to weigh nearly 1000 pounds and, before its removal, had already entangled and killed one sea turtle. I worked closely with representatives from federal, state, and local agencies, private businesses, and non-profit organizations to review proposals, secure funding, and hire a contractor to remove the net.

I have also been working to develop a new BleachWatch program for southeast Florida. BleachWatch is a community-based coral reef monitoring program and early warning network for coral bleaching, originally created by the Great Barrier Reef Marine Park Authority and established in the Florida Keys in 2005. In April, I finished developing the program training kits, and delivered two classes to train local divers to become members of an observer network that helps identify when and where bleaching is taking place. SEAFAN BleachWatch will officially launch this summer, when I will begin monitoring satellite data, collecting field observations from divers on the condition of the reefs, and creating monthly to bi-weekly reports to summarize the current conditions in the region.



Contractor removing the derelict fishing net from a southeast Florida artificial reef. Photo: Industrial Divers Corporation



Materials provided during the SEAFAN BleachWatch training. Photo: FDEP CRCP



Some participants from the Miami Beach Dive Cleanup. Photo: FDEP CRCP



Divers prepare to enter the water during the Miami Beach Dive Cleanup. Photo: FDEP CRCP

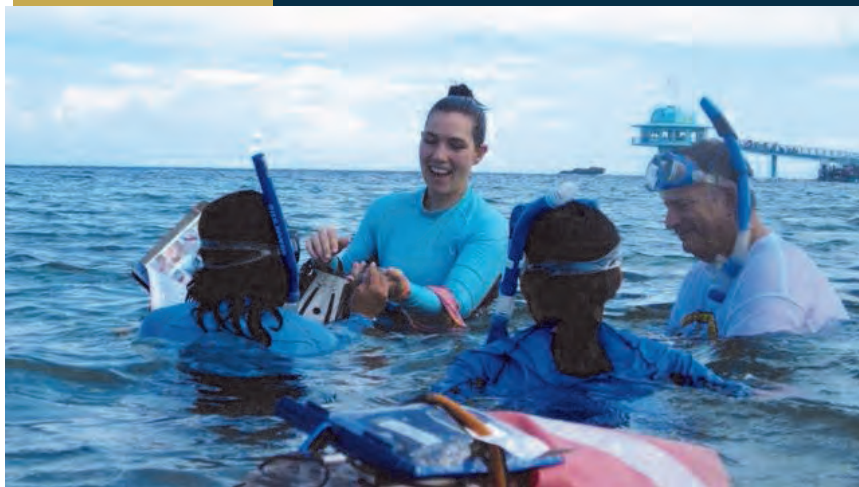


ROXANNA-GU/2013

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## Updates: GUAM

In-between monitoring seasons, I've found plenty of small projects to devote time to. With my coral reef monitoring background, I have been able to help the Guam Community Coral Reef Monitoring Program with their in-water training., devoting a few days a month to getting in the water with the community, helping them identify different marine species of interest (mostly algae, corals, and macroinvertebrates), and helping them solidify their survey skills and methods (using benthic quadrats and macroinvertebrate belt transects). I've also been busy writing articles and blogs which discuss the Guam Long-term Coral Reef Monitoring Program (GLCRMP) and other environmental projects and topics relevant to Guam, and helping the Guam Coastal Management Program (GCMP) with some of their outreach events, helping develop new outreach materials which discuss marine debris and sedimentation and how these impacts affect Guam's coral reefs.



I have been busy with data analysis of GLCRMP datasets from previous years, helping analyze photoquadrat from the 2012 monitoring dataset, and once all photos are analyzed, this information will be used to describe benthic percent cover at each site. I've also begun working on coral community size structure from 2012 as she has already completed initial analysis of coral community size structure from 2010 and 2011 monitoring datasets. During the rest of the year, in between fieldwork, I will be devoting portions of her time to data analysis in order to start getting an idea of the overall health of Guam's reefs in comparison to previous years.

In the coming weeks, the GLCRMP will begin their monitoring season by conducting initial assessments of monitoring sites in southern Guam, and also installing a multiparameter water quality datasonde. I will help with these assessments, and will also be assisting with data collection for the monitoring program over the next 7 months, helping conduct macroinvertebrate, rugosity, photoquadrat, and coral community surveys.







DEREK-AS/2013

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## Updates: AMERICAN SAMOA

The Reef Resilience Outreach was coordinated with Mrs. Fatima Leau from the NOAA Pacific Island Regional Office on Saturday April 7<sup>th</sup> to the village of Fagaalu, which was selected by the Task Force as a Plus One Site or a priority watershed management area. This was a collaborative effort with National Parks Service in American Samoa, the Natural Resource Conservation Services, Soil & Water District Council, the Department of Marine & Wildlife Resources, Natural Resources Conservation Service, and Environmental Protection Agency.

I worked with CRAG's Education coordinator to prepare presentations and activities that best fit the target audience. Presentations were followed by group activities that targeted coral reefs, climate change, and community resilience. Some of the activities that took place were the coral feeding frenzy, pollution impacts on ocean resources, vetiver grass display as a tool for run-offs and sedimentation, lastly the zooxanthellae rhyme. The overall program was evaluated by the participants towards the ending of the outreach. One of the participating groups identified key messages from the entire outreach and formulated a song, which will be used for a Public Service Announcement.

The Awareness Day was an event to showcase all the programs within the Department of Marine & Wildlife Resources. The Coral Reef Advisory Group is now housed with this department and therefore was asked to put together a booth for this event. Since, we focused on coral reefs we wanted to create a coral reef display. We built a coral reef model made of clays and recycled papers, and a painting for a background to make a 3 coral reef model. We also included some marine organisms that benefit the reefs, and even some that impact the reefs the crown of thorns. With this model I was able to present on the importance of coral reefs here in American Samoa and the world.

The children loved the display and kept touching it if it was real, and wanted to know what kind of animal lives in and on the coral reefs. The purpose of the model is to show healthy reefs with bright colors and different shapes, and the other side with bleached corals with white colors caused by climate change or eaten by crown of thorns. The activities included boat rides, jet sky rides, and also the display of recyclable materials that was turned into art from the various high schools on island.





## Updates: PUERTO RICO



JEIGER-PR/2013

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Integration. That's the word that defines my everyday in the fellowship. With the new turn in environmental policy in Puerto Rico, I've been able to promote integrative work in several areas that were never thought. Integration has been the constant in tasks such as the Cabo Rojo (southwest) Conservation Action Planning (CAP) led by TNC, and the educational activities in the Northeastern reserves. In Cabo Rojo, we successfully held meetings with local fishermen to initiate the CAP process, and with other users for the creation of maps of recreational boating activities. In Northeastern Puerto Rico one of the success stories is the reef cleanup activity convened by Sociedad Ambiente Marino (Marine Environment Society) in the island municipality of Culebra. In this activity old coral farm structures were removed and replaced with new materials in the longest ongoing acroporid coral farming project in northeastern Caribbean. As a result, at the end of the day we strengthen collaboration ties between management and enforcement officials, the municipality, the academia and various NGO's.

Following the educational thread, my biggest challenge has been the creation of a multidisciplinary, participatory and sustainable management effort using self-guided snorkeling trails in "Arrecifes la Cordillera Natural Reserve". We engaged various local stakeholders to determine an action plan towards ordaining conflicting uses in the ecologically-sensitive area of Icacos Island within "Arrecifes La Cordillera Natural Reserve", off northeastern Puerto Rico. After various stakeholder meetings, and following a bottom-up approach, there was consensus to design a system of "Integrated Interpretative Trails" to guide and control tourist activities within the Reserve. These will include a terrestrial component and a marine component incorporating removable interpretative buoys along permanent areas designated as "coral reef recovery areas" under the existing State Coral Reef Law. This is a vital opportunity to educate visitors regarding aspects such as coral reef degradation, overfishing, climate change-related impacts, and the importance of coral reef restoration through community-based participation. This approach can release pressure from other threatened coral reef areas and can provide useful guidance to regulate and manage recreational operations, becoming a role model for other MPA's in the Caribbean.





## Updates: CNMI

My work involves implementing a community-based management approach for the Tinian Marine Reserve in the CNMI. I am collaborating with members of the community, industry representatives, local legislature, and other invested parties to re-evaluate the location and conservation goals of the Tinian's Marine Reserve. The reserve is currently located in a portion of the island with high resource use conflicts. This process is helping local management agencies identify more spatially and culturally appropriate Marine Protected area (MPA) site options, while also increasing community understanding of the MPA's value.

BRITTA-CNMI/2013

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Earlier this month, I traveled with several local Division of Fish and Wildlife (DFW) staff to Tinian to attend the annual San Jose Fiesta.

While there, over one hundred people completed surveys reviewing their current knowledge of, and sentiments toward the Tinian Marine Reserve. In addition this survey provided an opportunity for participants to communicate any regulatory changes they would like to see implemented on Tinian in the future.

In the upcoming months, I will return to Tinian and host several community meetings to discuss the survey results, execute a community resource mapping exercise, and help outline conservation goals for the Marine Reserve. The information gathered from this process will ultimately be used to devise a management plan that reflects both the needs of the community and the conservation goals defined by local management agencies. It is my hope that the lessons learned from this process will be applicable to future community engagement and marine management efforts to increase the effectiveness of other MPAs in the CNMI.

